LAMOUREUX & DICKINSON
Consulting Engineers, Inc.

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Essex Junction, Vermont 05452

(802) 878-4450
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April 14, 1999

Mrs. Susan Cragin
361 Blue Ridge Drive
Rutland, Vermont 05701-8956

Subject: **Phase 2 Subsurface Investigation**
Cragin's Auto
NEC State and Pine Streets
Rutland, Vermont

Dear Mrs. Cragin:

Lamoureux & Dickinson (L&D), is pleased to present the results of the Phase 2 Subsurface Investigation for Cragin's Auto in Rutland, Vermont. Our study included subsurface exploration, on-site soil screening, and the collection and chemical testing of groundwater samples from the site. The study indicated the presence of petroleum hydrocarbon contamination to groundwater beneath the site.

We have attached an extra copy of the report for you to forward to the Vermont DEC. We appreciate the opportunity to be of service on this project. Please contact us with any questions or if we may be of additional service.

Respectfully submitted,

Lamoureux & Dickinson, Inc.

Sean P. O'Brien

Sean P. O'Brien, P.E.
Project Manager

Q:\1999\99019\P2REPORT.WPD

PHASE 2 SUBSURFACE INVESTIGATION
Cragin's Auto
State and Pine Streets
Rutland, Vermont

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ATTACHMENTS

INTRODUCTION

This report presents the findings of a Phase 2 Environmental Site Assessment (ESA) conducted by Lamoureux & Dickinson (L&D) at Cragin's Auto in Rutland, Vermont. The following sections summarize the project description, the scope of work, findings and conclusions.

PROJECT DESCRIPTION

The project site is at the corner of State and Pine Streets in Rutland, Vermont. Plate 1, Site and Vicinity Map, illustrates the general location of the property.

On August 31,1998, six underground storage tanks (USTs) and associated piping were removed from the site. The tanks were about 35 years old and had reportedly not been used for 10 to 15 years. They included five 4,000 gallon gasoline tanks and one 500 gallon waste oil tank. According to the report detailing the removal activities (included in Appendix C), the tanks were all in poor condition and several had holes in them. A photoionization detector (PID) was used to evaluate the potential for soil contamination; readings of up to 200 ppm were recorded.

Based on these findings, the Vermont Department of Environmental Conservation (DEC) requested that additional work be performed. The objectives of the investigation required by DEC were outlined in their letter dated November 16, 1998, and included the following:

- further definition of the degree and extent of contamination to the soil;
- determination of whether the airspace beneath the site and in the basements of adjacent buildings has been impacted by the release;
- estimation of the degree and extent of groundwater contamination;
- assessment of risk to relevant sensitive receptors or potential receptors;
- identification of potential remedial actions that may be required to control, mitigate, and/or monitor the effects of the release;
- development of preliminary recommendations, if any, for remedial action at the site; and
- development of a detailed report summarizing the investigative findings and potential remedial alternatives, if called for.

SCOPE OF WORK

The scope of work was developed in accordance with the items identified by the DEC, as listed above. The scope of work included the following elements, each of which are detailed below:

- evaluation of air quality in the basements of adjacent buildings;
- a drilling program of four soil borings and installation of monitoring wells in each;
- groundwater sampling; and
- report preparation.

Air Quality Evaluation

L&D conducted a qualitative evaluation of the air quality in the basements of adjacent buildings to which we were able to obtain access. The evaluation was conducted using an OVM 580B PID and an combustible gas indicator. Wall and floor construction and integrity were noted, and PID measurements were made along joints or cracks.

Soil Sampling and Drilling Procedures

L&D subcontracted Adams Engineering (AE) of Underhill, Vermont, to provide drilling services for the investigation. On March 18, 1999 four exploratory borings were drilled at the site in order to characterize subsurface conditions.

Continuous soil samples were collected from each borehole, which extended several feet below the water table. Representative portions of each soil sample were retained in ziploc plastic bags; PID organic vapor readings were taken from the headspace of each bag. Maximum PID readings are recorded on the attached exploratory logs.

Monitoring Well Installation and Groundwater Sampling

Monitoring wells were installed in each boring to allow for measurement of water levels and collection of groundwater samples. All wells consist of flush threaded 1.5-inch ID PVC screen and riser.

The well screen in each installation was positioned to span the anticipated seasonal groundwater fluctuation. The annulus of each well casing was sand-packed 2 to 3 feet above its well screen. A bentonite seal was placed above the sand to within 1 foot of the ground surface. A protective casing and locking access to each well were also provided.

All downhole tools were decontaminated by steam cleaning prior to the onset of drilling activities, between borings and at the end of the drilling program.

One week following the installation and development of the monitoring wells, groundwater samples were collected for analysis. Each of the monitoring wells were sampled using dedicated bailers. The samples were poured directly into bottles furnished by the laboratory.

A self-leveling builders level was used to determine the elevation of the top of each well casing based on a local datum. A water level indicator was then used to measure the depth to groundwater in each well.

Laboratory Analysis

All groundwater samples were analyzed for TPH by EPA Method 8015, BTEX and MTBE by EPA Method 8021B. Analytical services were provided by Green Mountain Laboratories of Montpelier.

All sampling containers were obtained directly from the lab, and were cleaned to laboratory standards. A VOC trip blank was prepared by the lab, which accompanied the sample bottles to and from the field. All samples were iced down to 4°C immediately after collection and transported to the lab within 24 hours.

FINDINGS

Surface Conditions

The subject property lies on the northwest corner of the intersection of State and Pine Streets in Rutland, Vermont. Rectangular in shape, the property is approximately 6,000 square feet in area, with 135 feet of frontage on State Street and 45 feet of frontage on Pine Street. A 1,300 square foot masonry structure occupying the north central portion of the site is an operating auto service center. Asphalt paved parking is to the south of the building, and to the east of the building lies the former tankhold (see the attached Site Plan). The area above the former tankhold remains surfaced with hard pack dirt and gravel.

A residential house lies to the immediate north of the property, and another residential house lies to the west. Across Pine Street to the east there is an apartment building and large asphalt paved parking lot. This parking lot is reportedly the site of a former gas station. To the south of the site across State Street is a large residence.

LINDA ELLIS

A Jiffy Mart gas station and convenience store is located diagonally across the intersection to the southeast from the property. Extensive groundwater contamination was detected at the Jiffy Mart site (DEC Site # 90-0643), including free product in two of the wells. A soil vapor extraction system was installed and remediation is ongoing.

The borehole for MW-1 was positioned at the southeast corner of the subject property and was drilled through asphalt surfacing. The well is positioned along the upgradient property boundary, to assess the condition of groundwater entering the site (particularly considering the on-going remediation of contamination at the Jiffy Mart site). MW-2 was completed through hard pack dirt in the center of the former tanks location. MW-3 and MW-4 were completed to the north of the former tank location, just north of a wood fence, and hydrologically downgradient of the former tank excavation.

Air Quality Evaluation

We were able to access the basement areas of the on-site masonry building and the neighboring residential building to the immediate north of the site. These two structures are the closest to the area of concern. A 580B OVM PID and an MSA combustible gas indicator were used to assess the ambient conditions in the respective spaces. No elevated levels of organic vapors or combustible gases were identified in either space.

Subsurface Soil Conditions: Bore Holes

The following paragraphs describe the conditions encountered in the various exploratory locations. Boring/Monitoring Well Logs are provided in Appendix A.

MW-1: The borehole for MW-1 encountered approximately 6 inches of asphalt and gravel subbase underlain by reddish brown, medium sand to approximately 7 feet below ground surface (bgs). From 7 feet to 9 ft bgs, tan mottled sand was encountered. Brown, fine to medium sand was noted in the boring from 9 ft to 13 ft, and gray sandy silt with increasing clay content was encountered from 13 ft to the termination depth at 14.5 ft bgs. The sand became wet below approximately 10 ft bgs, indicating the approximate location of the water table during boring. No petroleum hydrocarbon odors were noted during drilling.

MW-2: The borehole for MW-2 encountered sandy gravel surface over approximately 8 ft of gray-brown silty gravelly sand (tank backfill). Below 9 feet, the exploration encountered gray-brown, sandy silt, which became saturated below 10 feet bgs. Petroleum hydrocarbon odors were noted in the soils at a depth of approximately 8.5 to 11 ft bgs. Maximum PID readings were measured at 23 ppm in soil at 9 ft bgs.

MW-3: Subsurface soil conditions at MW-3 consisted of approximately 8 feet of red-brown, fine to medium sand, overlying tan mottled with orange silty sand to 10 feet bgs. From 10 ft bgs to the termination depth at 13 feet bgs, the exploration encountered tan, sandy silt. Petroleum hydrocarbon odors were noted in surface soils at this location, registering up to 6 ppm on the PID.

BH-4: Conditions encountered at MW-4 were very similar to those encountered in the borehole for MW-3. No petroleum hydrocarbon odors were noted in any of the soil samples examined.

Groundwater Sampling and Leveling Survey

On March 25, 1999, an environmental engineer from our firm visited the site to complete groundwater sampling and a groundwater leveling survey. Prior to sampling, the wells were purged of approximately 3 well volumes of water. Table 1 presents the information gathered during this phase of the study.

TABLE 1
Groundwater Leveling Survey

Monitoring Well #	Elevation of Top of Casing (feet)	Depth to GW from Top of Casing (feet)	Elevation of GW (feet)	Comments
MW-1	99.43	10.24	89.19	"cloudy" sample, No petroleum odor detected.
MW-2	98.98	9.90	89.08	Minor sediment, very slight petroleum odor detected.
MW-3	99.09	11.61	87.48	Highly sedimented, slight petroleum odor detected.
MW-4	99.47	11.41	88.06	Minor sediment, slight petroleum odor detected.

Notes:
(1) Elevation based on arbitrary local datum; elevation is taken on the northern side of the PVC riser.

The data presented in the table above is shown graphically in Plate 3, Groundwater Contour Map. Based on this limited data, the principal direction of groundwater movement beneath the study portion of the site appears to be to the northwest. The horizontal component of the hydraulic gradient across the site is approximately 0.03 ft/ft.

Laboratory Analysis

The results of the laboratory analysis are presented in Table 2, and compared to the enforcement standards as published in Vermont's Groundwater Protection Rule and Strategy.

TABLE 2
Laboratory Analytical Results

Parameter	MW-1	MW-2	MW-3	MW-4	Enforcement Standard[3]
Benzene	6.1[1]	670	ND[2]	1600	5
Toluene	ND	800	390	2500	1,000
Ethylbenzene	ND	150	420	560	700
Xylenes	ND	770	4000	6500	10,000
MTBE	880	760	ND	770	40
TPH (ppm)	ND	ND	< PQL/12.6 ppm[4]	< PQL/23.7 ppm[4]	--

Notes:

(1) All concentrations given in ug/l (ppb) unless otherwise noted.
(2) ND denotes not detected above the practical quantitation limit (see lab reports attached).
(3) Enforcement Standards (ES) from Table 1 of Vermont's Groundwater Protection Rule and Strategy (10 VSA § 1390-1394).
(4) TPH results for MW-3 and MW-4 were initially below practical quantitation levels and were reanalyzed at a lower sensitivity at the request of the consultant.
(5) Shaded cells indicate reported concentrations which exceed the respective ES.

CONCLUSIONS

The findings of this study confirm the presence of elevated levels of petroleum hydrocarbon contaminants in groundwater beneath portions of the subject property. Identification of the extent of the confirmed contamination remains unknown and was beyond the scope of this preliminary Phase 2 Investigation.

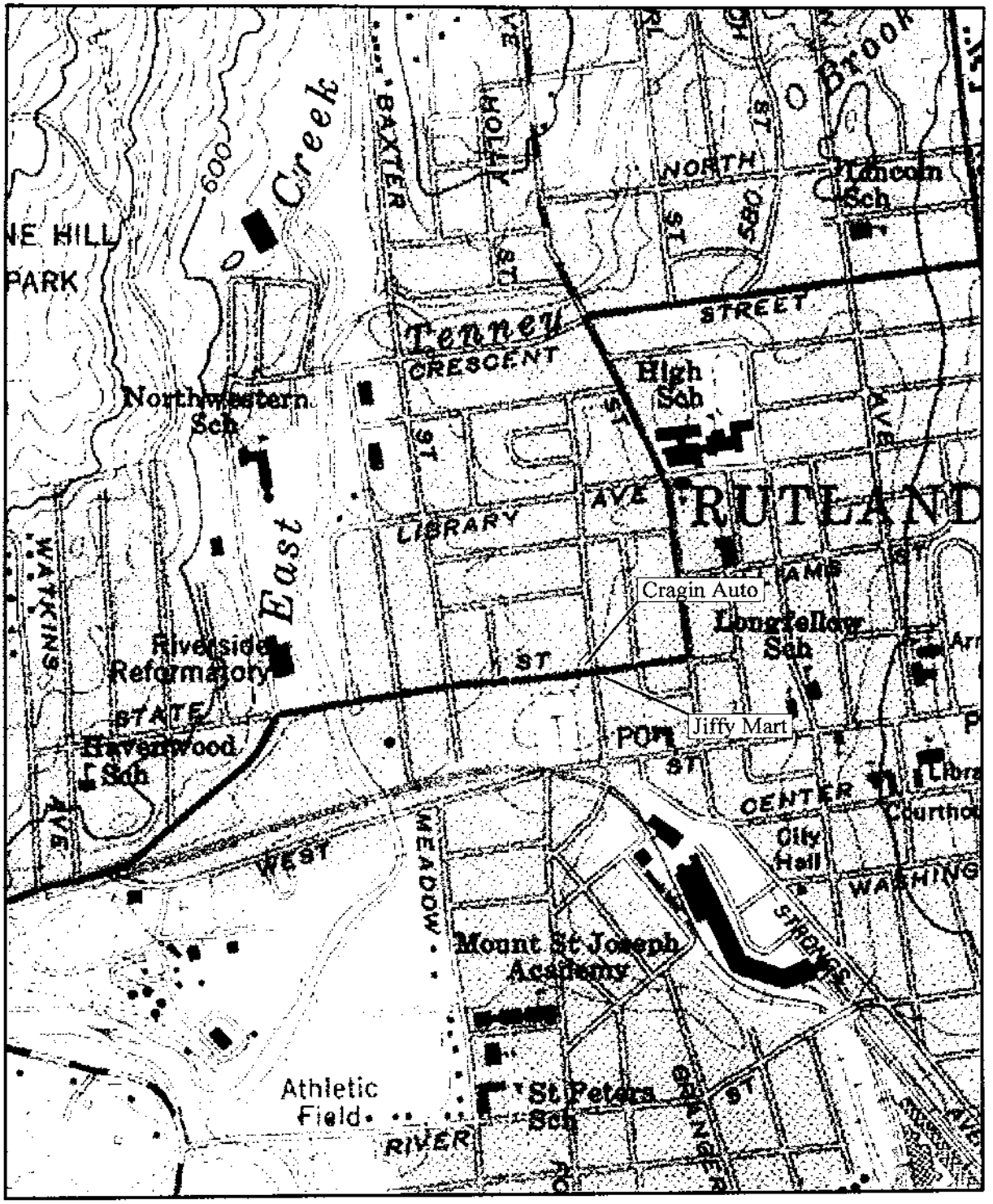
The following conclusions may be drawn from the limited work conducted to date:

(1) The presence of elevated levels of benzene and MTBE in the upgradient monitoring well on the subject property (MW-1) suggests the possibility of an off-site contributor to the contamination on the Cragin property. Most notably, the Jiffy Mart property, which lies hydrologically upgradient is the site of on-going remediation. In addition, it is believed that the asphalt paved parking lot to the east of the Cragin site was previously occupied by a gas station. The disposition of tanks and the existence of any studies for that property are currently unknown.

(2) The elevated concentrations of several analytes in the downgradient wells (relative to the upgradient well) suggest that the former on-site USTs may have impacted groundwater quality beneath the site.

(3) There are no known downgradient drinking water wells within the site vicinity. No such receptors are anticipated owing to the location within the city of Rutland and the use of Municipal water supplies. The nearest downgradient surface water discharge point is the East Creek which lies approximately 1,800 feet to the northwest of the site.

It is recommended that the investigation be expanded to include installation of additional wells on the property to the north of the Cragin site, and collection of another round of groundwater samples from all monitoring wells.



Map Source:
USGS 7.5 minute quadrangle map
for Rutland, Vermont.
Originated in 1961, photorevised in 1988.

Scale 1 inch = 1,000 feet

Plate 1
USGS MAP OF SITE & VICINITY
Cragin Auto, Rutland, Vermont

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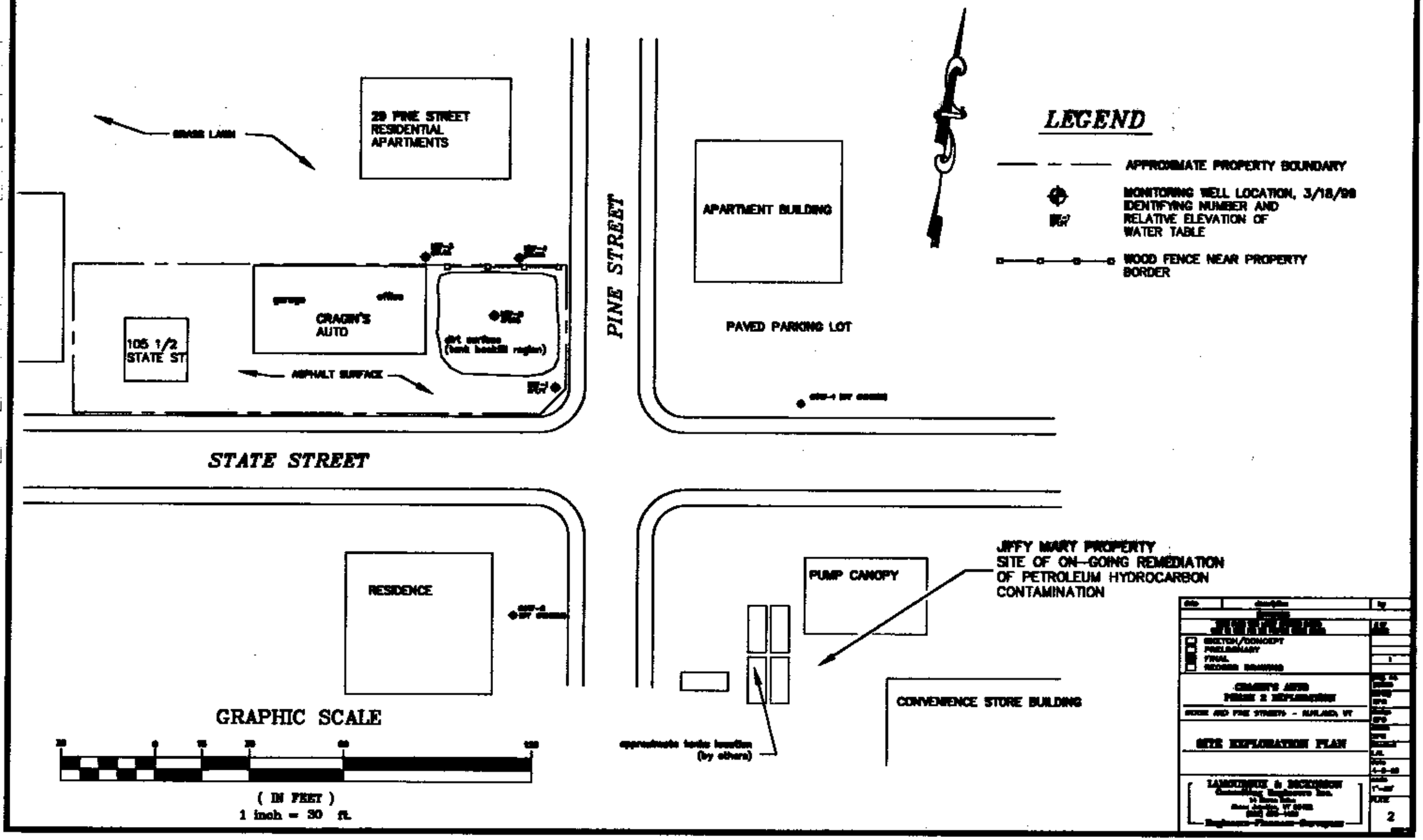
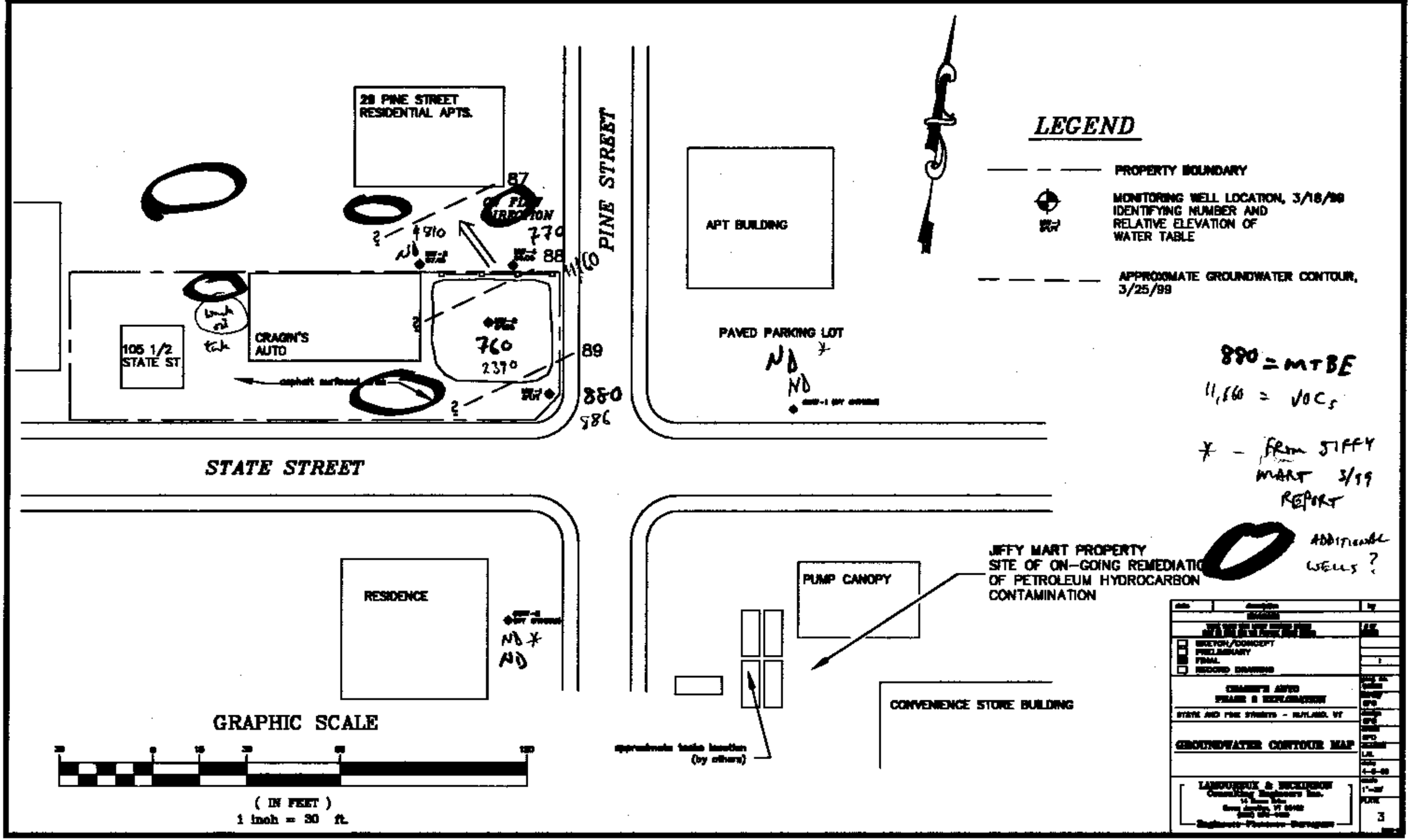

29 PINE STREET
RESIDENTIAL
APARTMENTS
GRASS LAWN
APARTMENT BUILDING
PINE STREET
PAVED PARKING LOT
LEGEND
APPROXIMATE PROPERTY BOUNDARY
MONITORING WELL LOCATION, 3/18/98
IDENTIFYING NUMBER AND
RELATIVE ELEVATION OF
WATER TABLE
WOOD FENCE NEAR PROPERTY
BORDER
105 1/2
STATE ST
CRAGIN'S
AUTO
garage
office
ASPHALT SURFACE
STATE STREET
RESIDENCE
PUMP CANOPY
JIFFY MART PROPERTY
SITE OF ON-GOING REMEDIATION
OF PETROLEUM HYDROCARBON
CONTAMINATION
CONVENIENCE STORE BUILDING
approximate tanks location
(by others)
GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.
SITE EXPLORATION PLAN
2


28 PINE STREET RESIDENTIAL APTS.
PINE STREET
APT BUILDING
PAVED PARKING LOT
105 1/2 STATE ST
CRAGIN'S AUTO
STATE STREET
RESIDENCE
PUMP CANOPY
CONVENIENCE STORE BUILDING
JIFFY MART PROPERTY
SITE OF ON-GOING REMEDIATION OF PETROLEUM HYDROCARBON CONTAMINATION
LEGEND
PROPERTY BOUNDARY
MONITORING WELL LOCATION, 3/18/99
IDENTIFYING NUMBER AND
RELATIVE ELEVATION OF
WATER TABLE
APPROXIMATE GROUNDWATER CONTOUR, 3/25/99
880 = MTBE
11,160 = VOCs
* - FROM JIFFY MART 3/99 REPORT
ADDITIONAL WELLS ?
GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.
GROUNDWATER CONTOUR MAP
LABRANCHE & JACKSON
3

SUBJECT PROPERTY VIEWED TO THE WEST-NORTHWEST

LOOKING SOUTHEAST TOWARD THE JIFFY MART PROPERTY

Plate 4 - Site Photographs
Cragin Auto, Rutland, Vermont

SUBJECT PROPERTY VIEWED TO THE NORTHEAST, ACROSS STATE ST

LOOKING SOUTH ALONG THE EASTERN BORDER OF THE SITE

Plate 5 - Site Photographs
Cragin Auto, Rutland, Vermont

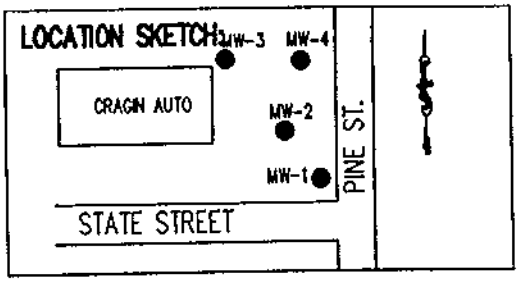
APPENDIX A

Monitoring Well Logs

MONITOR WELL LOG

SITE NAME: CRAGIN AUTO
LOCATION: RUTLAND, VERMONT
DATE INSTALLED: 3/18/99 **TOTAL DEPTH OF HOLE:** 14'
DIAMETER: 3"
PIPE DIAMETER: 1.5" **SCREEN LENGTH:** 10' **SLOT SIZE:** .010"
SOLID LENGTH: 4' **TYPE:** PVC
DRILLING COMPANY: ADAMS **DRILLING METHOD:**
DRILLER: GERRY ADAMS **LOG BY:** SEAN O'BRIEN

WELL NUMBER: MW-1



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0–28		ROAD BOX CAP BENTONITE WELL CASING SAND PACK WELL SCREEN BOTTOM PLUG	N/A N/A	Asphalt surface with subbase over: Reddish brown, medium SAND, moist NO PETROLEUM HYDROCARBON ODORS NOTED Tan mottled, fine to medium SAND, moist–wet NO PETROLEUM HYDROCARBON ODORS NOTED WATER TABLE ▼ Brown, fine to medium SAND with some silt, wet NO PETROLEUM HYDROCARBON ODORS NOTED Becomes gray, sandy SILT with some clay below 13' TERMINATION DEPTH AT 14'

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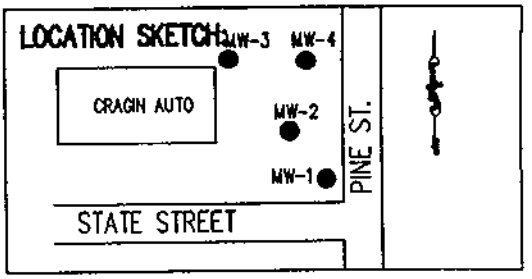
Y:\CAD\MG\MISC\WELL

MONITOR WELL LOG

SITE NAME: CRAGIN AUTO
LOCATION: RUTLAND, VERMONT
DATE INSTALLED: 3/18/99 **TOTAL DEPTH OF HOLE:** 14'
DIAMETER: 3"
PIPE DIAMETER: 1.5" **SCREEN LENGTH:** 10' **SLOT SIZE:** .010"
SOLID LENGTH: 4' **TYPE:** PVC
DRILLING COMPANY: ADAMS **DRILLING METHOD:**
DRILLER: GERRY ADAMS **LOG BY:** SEAN O'BRIEN

WELL NUMBER: MW-2

LOCATION SKETCH:



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0		ROAD BOX		Hard pack Dirt over:
1		CAP		Gray-brown, silty, gravelly SAND, moist (Tank Backfill)
2		BENTONITE		
3				
4		WELL CASING		
5			N/A	
6				
7		SAND PACK		SLIGHT PETROLEUM ODORS NOTED (max PID = 23 PPM at approx. 9' bgs)
8				
9		WELL SCREEN		WATER TABLE ▼
10			N/A	Gray-brown, sandy SILT, wet
11				NO PETROLEUM HYDROCARBON ODORS NOTED
12				
13				
14		BOTTOM PLUG		TERMINATION DEPTH AT 14'
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				

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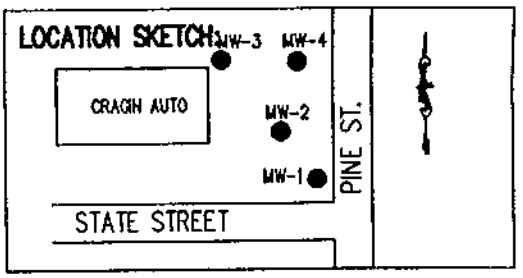
MONITOR WELL LOG

SITE NAME: CRAGIN AUTO
LOCATION: RUTLAND, VERMONT
DATE INSTALLED: 3/18/99 **TOTAL DEPTH OF HOLE:** 14'
DIAMETER: 3"
PIPE DIAMETER: 1.5" **SCREEN LENGTH:** 10' **SLOT SIZE:** .010"
SOLID LENGTH: 4' **TYPE:** PVC
DRILLING COMPANY: ADAMS **DRILLING METHOD:**
DRILLER: GERRY ADAMS **LOG BY:** SEAN O'BRIEN

WELL NUMBER: MW-3



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0–28		ROAD BOX CAP BENTONITE WELL CASING SAND PACK WELL SCREEN BOTTOM PLUG	N/A N/A	Grass surface over: Reddish brown, fine to medium SAND, moist PETROLEUM ODORS NOTED IN SURFACE SOILS (max PID = 6 PPM) Tan mottled, fine to medium SAND w/silt, moist NO PETROLEUM HYDROCARBON ODORS NOTED WATER TABLE ▼ Tan, sandy SILT, wet NO PETROLEUM HYDROCARBON ODORS NOTED TERMINATION DEPTH AT 13'

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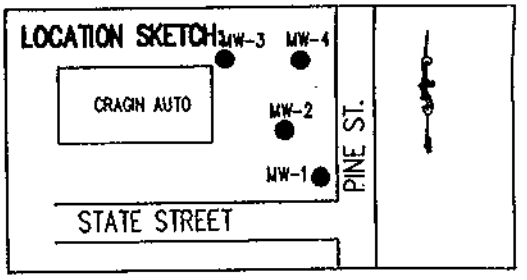
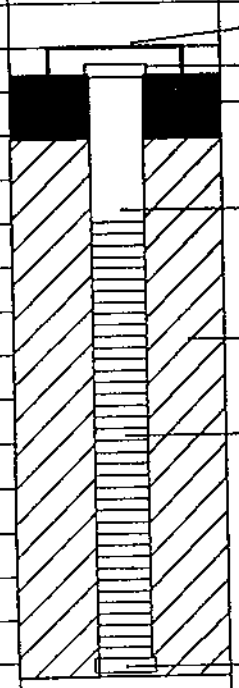
MONITOR WELL LOG

SITE NAME: CRAGIN AUTO
LOCATION: RUTLAND, VERMONT
DATE INSTALLED: 3/18/99 **TOTAL DEPTH OF HOLE:** 14'
DIAMETER: 3"
PIPE DIAMETER: 1.5" **SCREEN LENGTH:** 10' **SLOT SIZE:** .010"
SOLID LENGTH: 4' **TYPE:** PVC
DRILLING COMPANY: ADAMS **DRILLING METHOD:**
DRILLER: GERRY ADAMS **LOG BY:** SEAN O'BRIEN

WELL NUMBER: MW-4



DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
0–28		ROAD BOX CAP BENTONITE WELL CASING SAND PACK WELL SCREEN BOTTOM PLUG	N/A N/A	Grass surface over: Reddish brown, fine to medium SAND, moist NO PETROLEUM HYDROCARBON ODORS NOTED Tan mottled, fine to medium SAND w/silt, moist NO PETROLEUM HYDROCARBON ODORS NOTED WATER TABLE ▼ Tan, sandy SILT, wet NO PETROLEUM HYDROCARBON ODORS NOTED TERMINATION DEPTH AT 14'

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APPENDIX B

Laboratory Reports

Sean

RECEIVED

APR 0 7 1999

GREEN MOUNTAIN LABORATORIES, INC.

27 Cross Road
Middlesex, Vermont 05602

Phone (802) 223 - 1468 Fax (802) 223 - 8688

LABORATORY RESULTS

CLIENT NAME:	Lamoureux & Dickinson	REFERENCE NO.:	5109
ADDRESS:	14 Morse Drive	PROJECT NO.:	99-019
	Essex Junction, Vermont 05452	DATE OF SAMPLE:	03/25/99
SAMPLE LOCATION:	Cragin	DATE OF RECEIPT:	03/26/99
SAMPLER:	Sean O'Brien	DATE OF ANALYSIS:	04/02/99 - 04/04/99
ATTENTION:	Sean O'Brien	DATE OF REPORT:	04/05/99

Pertaining to the analyses of specimens submitted under the accompanying chain of custody form, please note the following:

- Water samples submitted for VOC analysis were preserved with HCl. However, samples MW 1 and MW 2 arrived at the laboratory with a pH of greater than two.
- Specimens were processed and examined according to the procedures outlined in the specified method.
- Holding times were honored.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing Calibration standards were monitored at intervals indicated in the specified method. The resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- The efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analyte to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:

Sarah Hallock
Quality Assurance Officer

GREEN MOUNTAIN LABORATORIES, INC.

· 27 Cross Road
Middlesex, Vermont 05602

Phone (802) 223 - 1468 Fax (802) 223 - 8688

LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

GML REF. # :	5109
STATION:	99019 - MW 1
ANALYSIS DATE:	04/02/99 & 04/04/99
DATE SAMPLED:	03/25/99
SAMPLE TYPE:	WATER

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	6.1
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
MTBE	5	880 *

Surrogate % Recovery: 116 %

ND = Not Detected
BPQL = Below Practical Quantitation Limits

* Sample was reanalyzed at a greater dilution to bring the concentration of this compound within the calibrated range.

GREEN MOUNTAIN LABORATORIES, INC.

27 Cross Road
Middlesex, Vermont 05602

Phone (802) 223 - 1468 Fax (802) 223 - 8688

LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

GML REF. # :	5109
STATION:	99019 - MW 2
ANALYSIS DATE:	04/02/99
DATE SAMPLED:	03/25/99
SAMPLE TYPE:	WATER

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	100	670
Toluene	100	800
Ethylbenzene	100	150
Xylenes	300	770
MTBE	500	760

Surrogate % Recovery: 116 %

ND = Not Detected
BPQL = Below Practical Quantitation Limits

GREEN MOUNTAIN LABORATORIES, INC.

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Middlesex, Vermont 05602

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LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

GML REF. # :	5109
STATION:	99019 - MW 3
ANALYSIS DATE:	04/04/99
DATE SAMPLED:	03/25/99
SAMPLE TYPE:	WATER

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	50	ND
Toluene	50	390
Ethylbenzene	50	420
Xylenes	150	4000
MTBE	250	ND

Surrogate % Recovery: 106 %

ND = Not Detected
BPQL = Below Practical Quantitation Limits

GREEN MOUNTAIN LABORATORIES, INC.

27 Cross Road
Middlesex, Vermont 05602

Phone (802) 223 - 1468 Fax (802) 223 - 8688

LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

GML REF. # :	5109
STATION:	99019 - MW 4
ANALYSIS DATE:	04/04/99
DATE SAMPLED:	03/25/99
SAMPLE TYPE:	WATER

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	50	1600
Toluene	50	2500
Ethylbenzene	50	560
Xylenes	150	6500
MTBE	250	770

Surrogate % Recovery: 107 %

ND = Not Detected
BPQL = Below Practical Quantitation Limits

GREEN MOUNTAIN LABORATORIES, INC.

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Middlesex, Vermont 05602

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LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

GML REF. # :	5109
STATION:	99019 - TB
ANALYSIS DATE:	04/02/99
DATE SAMPLED:	03/25/99
SAMPLE TYPE:	WATER

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	1	ND
Toluene	1	ND
Ethylbenzene	1	ND
Xylenes	3	ND
MTBE	5	ND

Surrogate % Recovery: 117 %

ND = Not Detected
BPQL = Below Practical Quantitation Limits

Green Mountain Laboratories, Inc.

27 Cross Road
Middlesex, Vermont 05602
Phone: (802) 223-1468 Fax: (802) 223-8688

LABORATORY RESULTS

CLIENT NAME:	Lamoureux & Dickinson	REF #:	5109
CLIENT ADDRESS:	14 Morse Drive Essex Junction, VT 05452	PROJECT NO:	99-019
		DATE OF SAMPLE:	03/25/99
SAMPLE LOCATION:	Cragin	DATE OF RECEIPT:	03/26/99
SAMPLER:	Sean O'Brien	DATE OF ANALYSIS:	04/02/99 - 04/04/99
ATTENTION:	Sean O'Brien	DATE OF REPORT:	04/05/99

Total Petroleum Hydrocarbons (TPH) by EPA Method 8015M (mg/L – ppm)

Sample	PQL	Result
99019 - MW 1	0.100	<0.100
99019 - MW 2	10.0	<10.0
99019 - MW 3	5.00	<5.00
99019 - MW 4	5.00	<5.00
99019 - TB	0.100	<0.100

PQL= Practical Quantitation Limit

Reviewed by:

Sarah Hallock
Quality Assurance Officer

Green Mountain Laboratories, Inc.

27 Cross Road
Middlesex, Vermont 05602
Phone (802) 223-1468 Fax (802) 223-8688
E-mail: GML@together.net

Page 1 of 1

GML # 5109

GML SAMPLE #

Client Name: Lamoureux & Dickinson
Address: 14 Morse Dr.
Phone / Fax: 802-878-4450 / 878-3135 FAX
Project Name: CRAGIN
Project Number: 99-019
Project Manager: Sean O'Brien
Sampler: Sean O'Brien

Sample Location	Date	Time	# of Cont.	Pres.	Sample Type	Analysis Requested: BTEX, MTBE (8260 B mod.)	Analysis Requested: TPH (8015)	Remarks
99019-MW1	3/25		2 VOA's		water (VOA's)	X	X	
99019-MW2	3/25					X	X	
99019-MW3	3/25					X	X	
99019-MW4	3/25					X	X	
99019-TB						X	X	

Chain of Custody

Relinquished By: Sean P. O'Brien	Date/Time: 3/26 2:35	Received By: Trina Cackson	Date/Time: 3/26/99 1435
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Temperature Blank:	Vial Lot ID #:		

GREEN MOUNTAIN LABORATORIES, INC.

27 Cross Road
Middlesex, Vermont 05602

Phone (802) 223 - 1468 Fax (802) 223 - 8688

LABORATORY RESULTS

CLIENT NAME:	Lamoureux & Dickinson	REFERENCE NO.:	5109
ADDRESS:	14 Morse Drive	PROJECT NO.:	99-019
	Essex Junction, Vermont 05452	DATE OF SAMPLE:	03/25/99
SAMPLE LOCATION:	Cragin	DATE OF RECEIPT:	03/26/99
SAMPLER:	Sean O'Brien	DATE OF ANALYSIS:	04/12/99
ATTENTION:	Sean O'Brien	DATE OF REPORT:	04/14/99

Pertaining to the analyses of specimens submitted under the accompanying chain of custody form, please note the following:

- Water samples MW 3 and MW 4 submitted for VOC analysis were preserved with HCl.
- Samples MW 3 and MW 4 had headspace in both vials prior to reanalysis on April 12, 1999.
- Specimens were processed and examined according to the procedures outlined in the specified method.
- Samples were reanalyzed 4 days out of holding time at the request of the client.
- Instruments were appropriately tuned and calibrations were checked with the frequencies required in the specified method.
- Blank contamination was not observed at levels interfering with the analytical results.
- Continuing Calibration standards were monitored at intervals indicated in the specified method. The resulting analytical precision and accuracy were determined to be within method QA/QC acceptance limits.
- The efficiency of analyte recovery for individual samples was monitored by the addition of surrogate analyte to all samples, standards, and blanks. Surrogate recoveries were found to be within laboratory QA/QC acceptance limits, unless noted otherwise.

Reviewed by:

Sarah Hallock
Quality Assurance Officer

RE-ANALYSIS OF MW-3, MW-4 AT CONSULTANT REQUEST;

4/14/99

Green Mountain Laboratories, Inc.

27 Cross Road
Middlesex, Vermont 05602
Phone: (802) 223-1468 Fax: (802) 223-8688

LABORATORY RESULTS

CLIENT NAME:	Lamoureux & Dickinson	REF #:	5109
CLIENT ADDRESS:	14 Morse Drive	PROJECT NO:	99-019
	Essex Junction, VT 05452	DATE OF SAMPLE:	03/25/99
SAMPLE LOCATION:	Cregin	DATE OF RECEIPT:	03/26/99
SAMPLER:	Sean O'Brien	DATE OF ANALYSIS:	04/12/99
ATTENTION:	Sean O'Brien	DATE OF REPORT:	04/14/99

Total Petroleum Hydrocarbons (TPH) by EPA Method 8015M (mg/L – ppm)

Sample	PQL	Result
99019 - MW 3	5.00	12.6 *
99019 - MW 4	5.00	23.7 *

PQL= Practical Quantitation Limit

* Samples reanalyzed 4 days out of hold time by a low level 8015M method at the request of the client.

Reviewed by:

Sarah Haliock
Quality Assurance Officer

GREEN MOUNTAIN LABORATORIES, INC.

27 Cross Road
Middlesex, Vermont 05602

Phone (802) 223 - 1468 Fax (802) 223 - 8688

LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

GML REF. # : 5109
STATION: 99019 - MW 3
ANALYSIS DATE: 04/12/99
DATE SAMPLED: 03/25/99
SAMPLE TYPE: WATER

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	50	ND
Toluene	50	250
Ethylbenzene	50	260
Xylenes	150	2600
MTBE	250	ND

Surrogate % Recovery: 107 %

ND = Not Detected
BPQL = Below Practical Quantitation Limits

GREEN MOUNTAIN LABORATORIES, INC.

27 Cross Road
Middlesex, Vermont 05602

Phone (802) 223 - 1468 Fax (802) 223 - 8688

LABORATORY RESULTS

GC/MS METHOD - BTEX (BENZENE, TOLUENE, ETHYLBENZENE, XYLENES) + MTBE

GML REF. # :	5109
STATION:	99019 - MW 4
ANALYSIS DATE:	04/12/99
DATE SAMPLED:	03/25/99
SAMPLE TYPE:	WATER

PARAMETER	PQL (µg/L)	Conc. (µg/L)
Benzene	50	2200
Toluene	50	4300
Ethylbenzene	50	990
Xylenes	150	8100
MTBE	250	780

Surrogate % Recovery: 108 %

ND = Not Detected
BPQL = Below Practical Quantitation Limits

APPENDIX C

UST Closure Report

GRIFFIN INTERNATIONAL INC

September 22, 1998

Ms. Sue Thayer
Vermont Department of Environmental Conservation
Waste Management Division
103 South Main St. / West Bldg.
Waterbury, VT 05671-0404

RE: Cragin's Auto. UST System Closure Inspection, Rutland, VT, Facility ID UNK

Dear Ms. Thayer:

On August 31,1998 and September 1, 1998, Griffin inspected the permanent closure of six underground storage tanks and associated systems, owned by Mrs. John Cragin. UST #1 through UST #6 were located at 105 State Street, Rutland, Vermont and were of single wall steel construction. The USTs were reported to be about 35 years old. Enclosed are the UST permanent closure forms, completed Site Investigation Expressway Notification Form, and photographs of the six USTs.

The USTs were excavated by Edward Fabian Earth Moving of West Rutland, then cleaned by MacIntyre Fuels. Approximately 65 gallons of gasoline liquid and tank bottoms were generated, transported, and disposed of by MacIntyre Petroleum. Another 400 gallons of waste oil liquid and tank bottoms were generated, transported, and disposed of by Total Waste Management of Newington, New Hampshire. The USTs went to Rhodes Salvage in Milton, VT. The USTs had not been used for about 25 years prior to their removal. The USTs consisted of:

UST #1 - 4,000 gallon, gasoline, single wall, steel
UST #2 - 4,000 gallon, gasoline, single wall, steel
UST #3 - 4,000 gallon, gasoline, single wall, steel
UST #4 - 4,000 gallon, gasoline, single wall, steel
UST #5 - 4,000 gallon, gasoline, single wall, steel
UST #6 - 500 gallon, waste oil, single wall, steel

The USTs and product piping removed were not to be replaced.

P.O. Box 943 • Williston, VT 05495 • Phone/Fax 802-865-4288
59 Clinton Street • Plattsburgh, NY 12901 • 518-562-4666 • Fax 518-561-6832

The excavator removed the soil surrounding the USTs (UST #1,#2, #3, #4, and #5), in Excavation A. The soils were screened for volatile organic compounds (VOCs) using an HNu Model HW-101 photoionization device (PID). This was accomplished at depths from 3 to 12 feet below grade. A total of 40 samples were collected. VOCs were detected by PID at concentrations ranging from 0 parts per million (ppm) to 170 ppm.

The first tank removed was UST #1. This tank was in poor condition with severe rust and pitting and one visible hole. A total of 10 soil samples were collected for screening from 4 feet to 12 feet below grade. These samples had readings of 0 to 200 ppm for VOCs.

The second tank removed was UST #2. This tank was in poor condition with severe rust and pitting. A total of seven samples were collected, at depths of 3 feet to 10 feet below grade. These samples tested between 0 and 170 ppm for VOCs.

UST #3 was removed and was in poor condition, with severe rust and pitting and holes. A total of seven soil samples were collected for screening from depths of 4 feet to 12 feet below grade. The samples tested between 0 and 10 ppm for VOCs.

UST #4 was removed and was poor condition, with severe rust and pitting and several holes. A total of six soil samples were collected. PID readings were between 0 and 110 ppm, and were collected at depths of 4 to 12 feet below grade.

UST #5 was removed and was poor condition, with severe rust and pitting and several holes. A total of five soil samples were collected at depths of 9 to 11 feet below grade. PID readings were between 1 and 110 ppm.

Below is a chart of the PID readings and the depth at which the samples were collected for Excavation A.

As per VTDEC guidelines, two soil samples were collected for laboratory analysis from the base of the waste oil tank, UST #6. Soil samples for this analysis were collected from approximately 5 feet below grade. Sample #14 was collected from the south end, and sample #15 was collected near the north end below the tank. The results of these analyses are attached. A total of five soil samples were collected and field screened from depths of three to five feet below grade. PID readings were between 0 and 1.2 ppm.

Soils at Excavation B consisted of fine to medium grain dark brown silt and sand. Groundwater was not encountered during this excavation at the maximum depth of 5 feet. Approximately 2.5 cubic yards of soil were backfilled at the site.

Cragin's Auto obtains water from the Rutland City public water supply. There are no known private or public water supply wells in the vicinity of this site. There is no basement in the Cragin's building. The nearest residences are approximately 200 feet away to the north of the site. The nearest surface water is East Creek which is located approximately 1/4 mile west of the site. Other than groundwater no receptors are known to be impacted.

EXCAVATION A

Soil Sample	Depth (ft)	VOC (ppm)
1	3	0
2	3.5	0
3	3.5	0
4	4	0
5	5	0
6	6	0
7	7	0
8	7	0
9	10-12	180
10	12	200
16	3	0
17	5	0
18	5	0
19	6	0
20	7	0
21	9.5	150
22	10	170
23	4	10
24	5	10
25	6	4
26	5	10
27	10	0
28	10	10
29	12	0
30	4	0
31	5	0
32	9	0
33	10	1
34	11	110
35	12	0
36	10	1
37	9	2
38	9	20
39	11	110
40	11	110

EXCAVATION B

11	3	1.2
12	3.5	0
13	4.5	0
14	5	0
15	5	0

Please call me with any questions that you may have regarding this closure.

Sincerely,

Peter Schuyler
President

pbs/tpl/89841339craigansauto

Encl.

cc: 89841339
John Cragin Jr. Cragin's Auto.
Doug Cone MacIntyre Fuels

State of Vermont

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation
Waste Management Division
103 South Main Street/West Office
Waterbury, Vermont 05671-0404
(802) 241-3888, FAX (802) 241-3296

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
RELAY SERVICE FOR THE HEARING IMPAIRED
1-800-253-0191 TDD>Voice
1-800-253-0195 Voice>TDD

SITE INVESTIGATION EXPRESSWAY NOTIFICATION FORM

Site Owner: _____

Site Name, Town: _____

✓ Yes, this site will participate in the Site Investigation Expressway Process.

___ No, this site will not participate in the Site Investigation Expressway Process.

If yes, please complete the checklist below:

✓ Contamination present in soils above action levels ✓ Yes ___ No

If yes, summarize levels:

_____

_____

✓ Free product observed ___ Yes ✓ No

✓ Groundwater contamination observed ✓ Yes ___ No

✓ Surface water contamination observed ___ Yes ✓ No

✓ Suspected release of hazardous substances ___ Yes ___ No

If yes, please explain:

_____

_____

✓ Affected receptors ✓ Yes ___ No

If yes, please identify receptors including names and addresses of third party receptors:

soil, gd water

_____

_____

Please provide an estimated date of when you expect to submit Site Investigation Report: _____

Owner's Signature/Date: [signature] 9/1/98 Consultant's Signature/Date: Veronica Alberico 9/1/

The SMS has reviewed this expressway notification form and approves / disapproves of this action.

SMS Signature/Date: _____

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: Craging State St.
REPORT DATE: September 15, 1998
DATE SAMPLED: September 1, 1998

PROJECT CODE: GICR1840
REF. #: 126,529 - 126,530

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody.

Chain of custody indicated proper sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within Laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8240 SOIL MATRIX

CLIENT: Griffin International
PROJECT NAME: Craging State St.
REPORT DATE: September 15, 1998
DATE SAMPLED: September 1, 1998
DATE RECEIVED: September 2, 1998
ANALYSIS DATE: September 14, 1998

PROJECT CODE: GICR1840
REF.#: 126,529
STATION: UST 6 #14
TIME SAMPLED: 10:30
SAMPLER: Veronica Alberico

Parameter	Detection Limit (ug/kg)	Result as received(ug/kg)	Parameter	Detection Limit (ug/kg)	Result as received(ug/kg)
Acetone	200	ND[1]	Dichlorodifluoromethane	100	ND
Benzene	10	ND	1,2-Dichloropropane	10	ND
Bromodichloromethane	10	ND	cis-1,3-Dichloropropene	10	ND
Bromoform	10	ND	trans-1,3-Dichloropropene	10	ND
Bromomethane	10	ND	Ethyl Benzene	10	ND
2-Butanone	200	ND	2-Hexanone	200	ND
Carbon Disulfide	50	ND	Methylene Chloride	100	ND
Carbon Tetrachloride	10	ND	4-Methyl-2-Pentanone	200	ND
Chlorobenzene	10	ND	MTBE	100	ND
Chloroethane	50	ND	Styrene	20	ND
Chloroform	10	ND	1,1,2,2-Tetrachloroethane	20	ND
Chloromethane	50	ND	Tetrachloroethene	10	ND
1,2-Dichlorobenzene	10	ND	Toluene	10	TBQ[2]
1,3-Dichlorobenzene	10	ND	1,1,1-Trichloroethane	20	ND
1,4-Dichlorobenzene	10	ND	1,1,2-Trichloroethane	20	ND
Dibromochloromethane	10	ND	Trichloroethene	10	ND
1,1-Dichloroethane	10	ND	Trichlorofluoromethane	50	ND
1,2-Dichloroethane	10	ND	Vinyl Chloride	50	ND
1,1-Dichloroethene	10	ND	Total Xylenes	20	25.7
trans-1,2-Dichloroethene	10	ND			

PERCENT SOLID: 92.%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

ANALYTICAL SURROGATE RECOVERY:
Dibromofluoromethane : 100.%
Toluene-d8 : 114.%
4-Bromofluorobenzene : 104.%

NOTES:
1 None detected
2 Trace below quantitation limit

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 8240 SOIL MATRIX

CLIENT: Griffin International
PROJECT NAME: Craging State St.
REPORT DATE: September 15, 1998
DATE SAMPLED: September 1, 1998
DATE RECEIVED: September 2, 1998
ANALYSIS DATE: September 14, 1998

PROJECT CODE: GICR1840
REF.#: 126,530
STATION: UST 6 #15
TIME SAMPLED: 10:33
SAMPLER: Veronica Alberico

Parameter	Detection Limit (ug/kg)	Result as received(ug/kg)	Parameter	Detection Limit (ug/kg)	Result as received(ug/kg)
Acetone	200	ND[1]	Dichlorodifluoromethane	100	ND
Benzene	10	ND	1,2-Dichloropropane	10	ND
Bromodichloromethane	10	ND	cis-1,3-Dichloropropene	10	ND
Bromoform	10	ND	trans-1,3-Dichloropropene	10	ND
Bromomethane	10	ND	Ethyl Benzene	10	ND
2-Butanone	200	ND	2-Hexanone	200	ND
Carbon Disulfide	50	ND	Methylene Chloride	100	ND
Carbon Tetrachloride	10	ND	4-Methyl-2-Pentanone	200	ND
Chlorobenzene	10	ND	MTBE	100	ND
Chloroethane	50	ND	Styrene	20	ND
Chloroform	10	ND	1,1,2,2-Tetrachloroethane	20	ND
Chloromethane	50	ND	Tetrachloroethene	10	ND
1,2-Dichlorobenzene	10	ND	Toluene	10	ND
1,3-Dichlorobenzene	10	ND	1,1,1-Trichloroethane	20	ND
1,4-Dichlorobenzene	10	ND	1,1,2-Trichloroethane	20	ND
Dibromochloromethane	10	ND	Trichloroethene	10	ND
1,1-Dichloroethane	10	ND	Trichlorofluoromethane	50	ND
1,2-Dichloroethane	10	ND	Vinyl Chloride	50	ND
1,1-Dichloroethene	10	ND	Total Xylenes	20	ND
trans-1,2-Dichloroethene	10	ND			

PERCENT SOLID: 92.%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

ANALYTICAL SURROGATE RECOVERY:
Dibromofluoromethane : 105.%
Toluene-d8 : 112.%
4-Bromofluorobenzene : 102.%

NOTES:
1 None detected

ENDYNE, INC.

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

GJH978 41339

CHAIN-OF-CUSTODY RECORD

Project Name: Craigin, State St Site Location: Rutland Vt	Reporting Address: [illegible]	Billing Address: [illegible]
Endyne Project Number: GJCR18YG	Company: Contact Name/Phone #:	Sampler Name: [illegible] Phone #: [illegible]

Lab #	Sample Location	Matrix	GRAB	COMP	Date/Time	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
126529	UST6 #14	soil	✓		10:30 9/1/98	1	4oz jar		8100 Mod 8240	Cooled	
126530	UST6 #15	soil	✓		10:33 9/1/98	1	4oz jar		↓	cooled	

Relinquished by: Signature Veronica Albanese	Received by: Signature	Date/Time 9/2/98 12
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes ____ No ✓

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD_5	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	TPA 601/602	25	EPA 8260		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify): 8100 Mod, Flex. Cl PH.										

NDYNE, INC.

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

gJ#898 41339

CHAIN-OF-CUSTODY RECORD

8709

Project Name: Cragin State St Site Location: Rutland Vt	Reporting Address: griffin	Billing Address: 19 Commerce St Williston VT
Endyne Project Number:	Company: Contact Name/Phone #:	Sampler Name: Veronica Alberino Phone #: 865-4288

Lab #	Sample Location	Matrix	GRAB	COMP	Date/Time	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
#4	UST6 #14	soil	✓		10:30 9/1/98	1	4oz jar	25/30	8100 Mod (TPH) 8240	cooled	
#5	UST6 #15	soil	✓		10:33 9/1/98	1	4oz jar	"	↓	cooled	

Relinquished by: Signature Veronica Alberino	Received by: Signature [signature]	Date/Time 9/1/98 9/2/98 12:55
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes ____ No ✓

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD_5	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	(25)	EPA 8240		

29 TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)

(30) Other (Specify): 8100 Modified (TPHs)

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: Cragins/89841339
DATE REPORTED: September 18, 1998
DATE SAMPLED: September 1, 1998

PROJECT CODE: GICR1839
REF. #: 126,527 - 126,528

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated proper sample preservation.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

TOTAL PETROLEUM HYDROCARBONS (TPH) BY MODIFIED EPA METHOD 8100

DATE: September 18, 1998
CLIENT: Griffin International
PROJECT: Cragins/89841339
PROJECT CODE: GICR1839
COLLECTED BY: Veronica Alberico
DATE SAMPLED: September 1, 1998
DATE RECEIVED: September 1, 1998

Reference #	Sample ID	Concentration (mg/kg)[1]
126,527	UST 6 #14; 10:30	28.1
126,528	UST 6 #15; 10:30	14.3

Notes:

1 Values quantitated based on the response of #2 Fuel Oil. Method detection limit is 5.0 mg/kg.

ENDYNE, INC.
1 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

GI#898 41339

28709

CHAIN-OF-CUSTODY RECORD

126,527 — 126,530

Project Name: Cragin, State St Site Location: Rutland Vt	Reporting Address: ~~Lee S~~ griffin	Billing Address: 19 Commerce St Williston VT
Endyne Project Number: GJCR1839	Company: Contact Name/Phone #:	Sampler Name: Veronica Alberino Phone #: (802) 865-4288

Lab #	Sample Location	Matrix	GRAB	COMP	Date/Time	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
~~27~~	UST6 #14	Soil	✓		10:30 9/1/98	1	4oz jar	25/30	8100 Mod 8240	(pH) cooled	
~~28~~	UST6 #15	Soil	✓		10:30 10:33 9/1/98	1	4oz jar	"	↓	cooled	

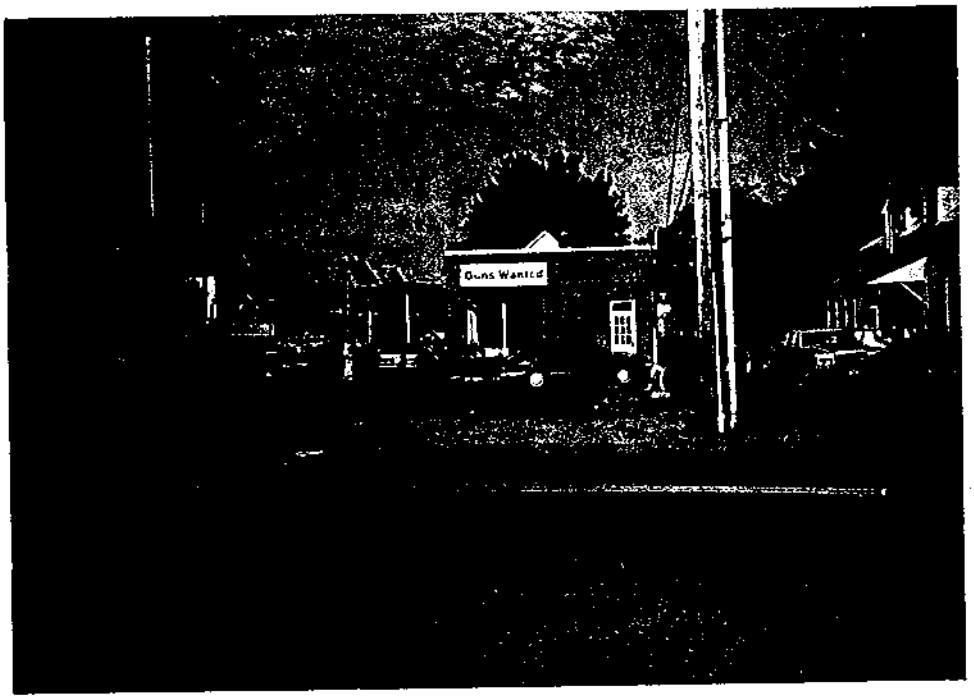
Relinquished by: Signature Veronica Alberino	Received by: Signature	Date/Time 9/1/98 9/2/98 12:5
Relinquished by: Signature	Received by: Signature	Date/Time

New York State Project: Yes ____ No ✓

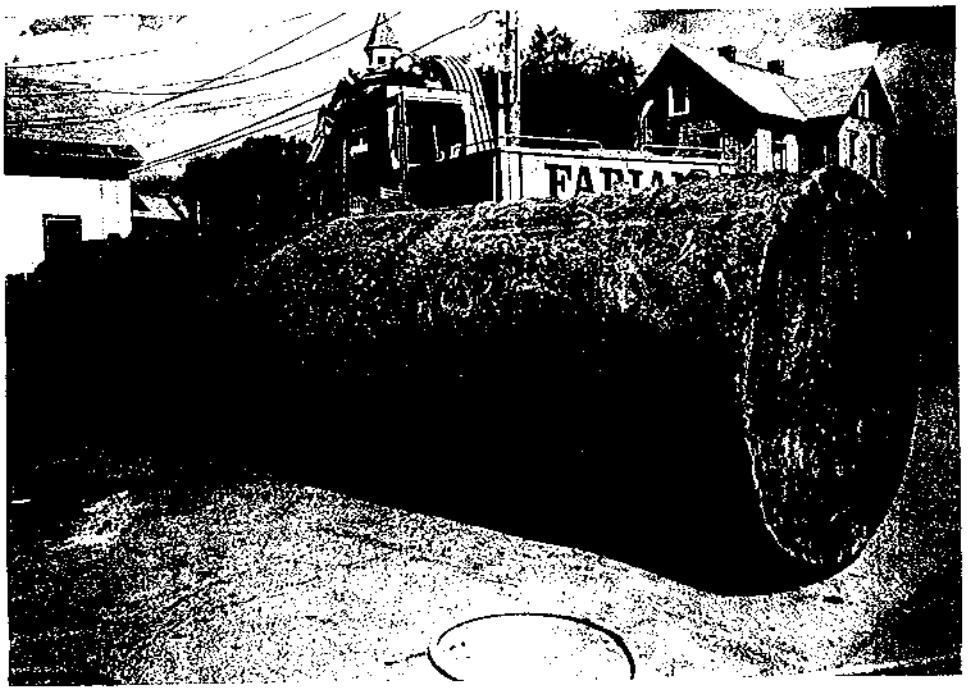
Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD_5	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	20	EPA 601/602	(25)	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other: (Specify) 8100 Modified for PAHs										

CRAGIN'S AUTO
105 STATE STREET
RUTLAND, VT
UNDERGROUND STORAGE TANK REMOVAL
SEPTEMBER 1, 1998

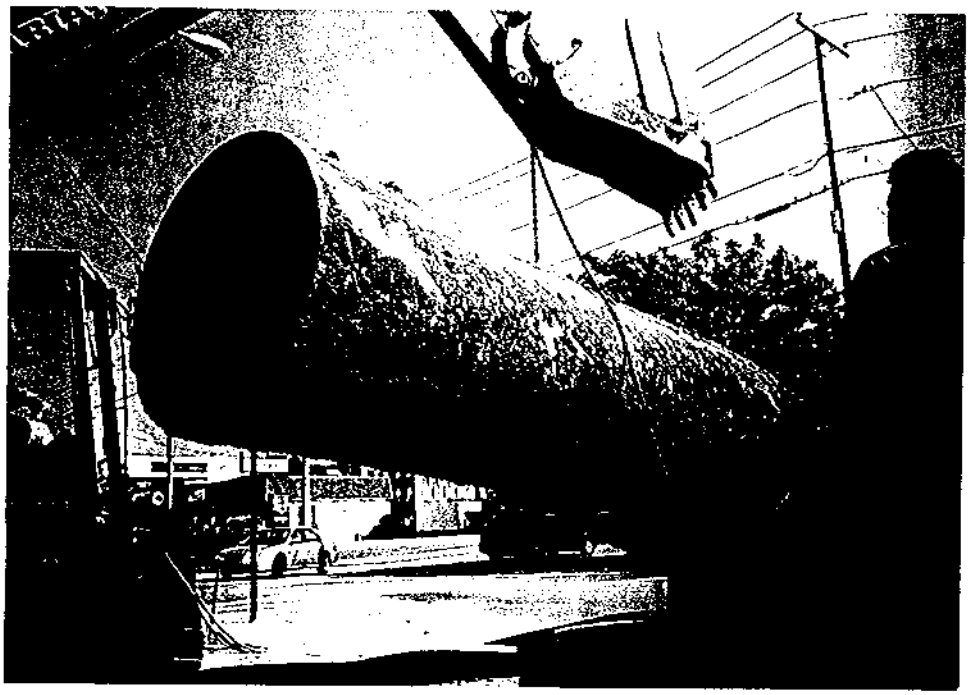


SITE LOCATION PRIOR TO CLOSURE

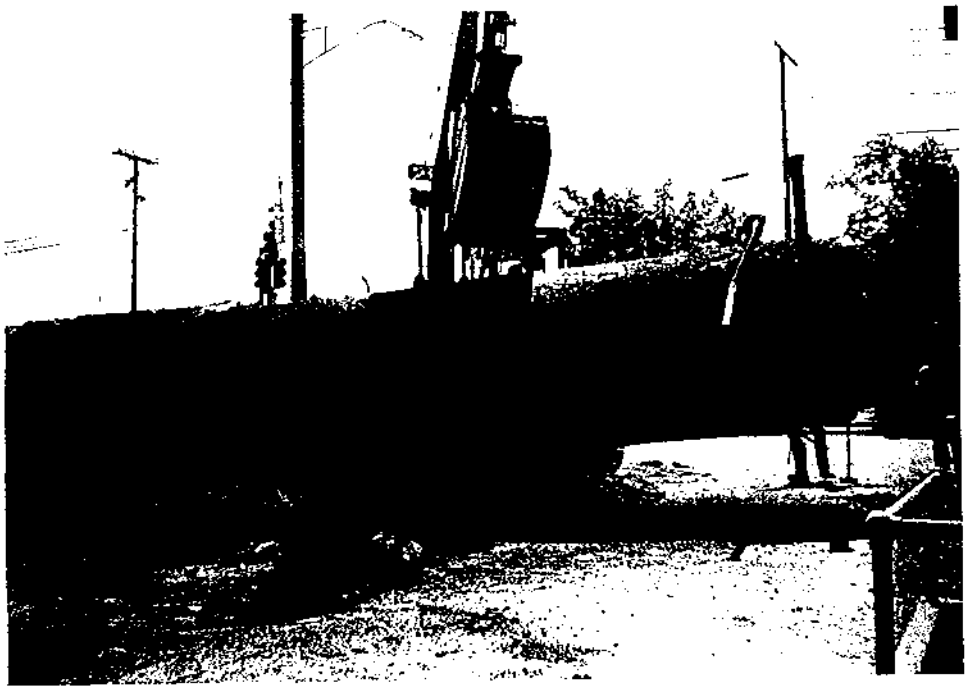


UST 1

CRAGIN'S AUTO
105 STATE STREET
RUTLAND, VT
UNDERGROUND STORAGE TANK REMOVAL
SEPTEMBER 1, 1998



UST 2



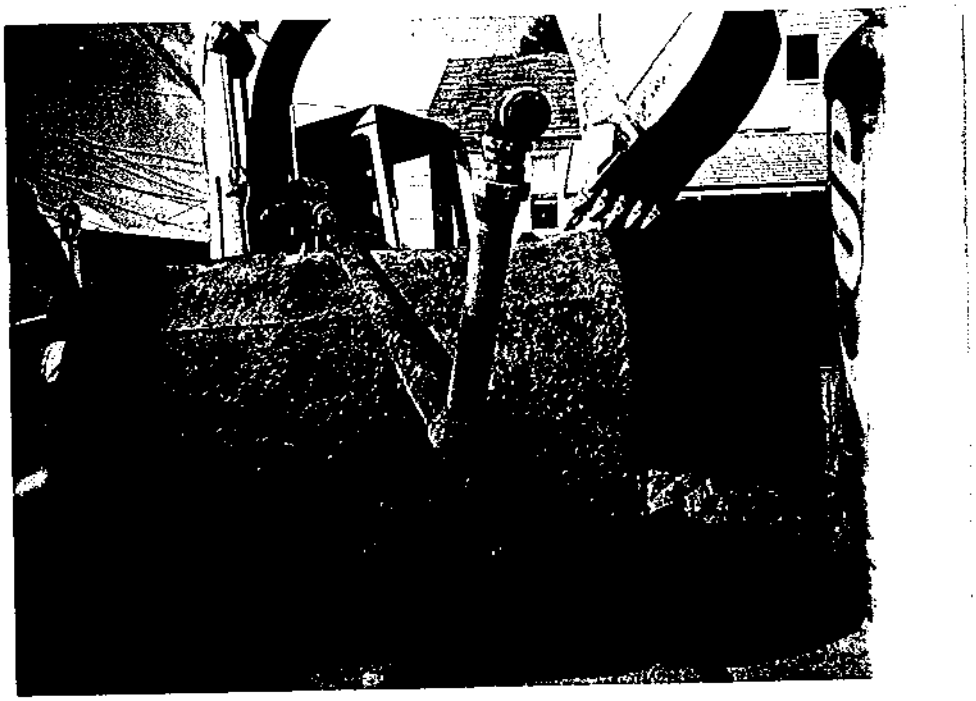
UST 3

CRAGIN'S AUTO
105 STATE STREET
RUTLAND, VT
UNDERGROUND STORAGE TANK REMOVAL
SEPTEMBER 1, 1998

UST 4

UST 5

CRAGIN'S AUTO
105 STATE STREET
RUTLAND, VT
UNDERGROUND STORAGE TANK REMOVAL
SEPTEMBER 1, 1998



UST 6

Form 1 of 2

UNDERGROUND STORAGE TANK PERMANENT CLOSURE FORM

Vermont Agency of Natural Resources, Department of Environmental Conservation, Waste Management Division
103 South Main Street, West Building, Waterbury, Vermont 05671-0404, Telephone: (802) 241-3888

Agency Use Only
Date of scheduled Activity 8/31/98 Facility ID # — Closing: __ tanks, __ piping, ✓ system
DEC initials: ST SMS # DEC evaluator:

Section A. Facility Information:
Name of facility: [illegible] Number of employees: 2
Street address: 105 State St Rutland VT Town/city Rutland
Owner of UST(s) to be closed: John Cragin Contact(if different than owner): John Cragin Jr
Mailing address of owner: 109 State St Rutland VT
Telephone number of owner: 775-4743 Contact telephone #: 773-9781 wp

Section B. UST Closure Information: *(please check one)*
Reason for initiating UST closure: __Suspected Leak __Liability __Replacement X Abandoned

USTs (piping is considered a part of UST system) undergoing permanent closure. Include condition of USTs

UST #	Product	Size (gallons)	Tank age	Tank Condition	Piping age	Piping condition
#1	gasoline	4,000 gal	about ~35 yrs	poor	~35 yrs	poor
#2	gasoline	4,000 gal	~35 yrs	poor	~35 yrs	poor
#3	gasoline	4,000 gal	~35 yrs	poor	~35 yrs	poor
#4	gasoline	4,000 gal	~35 yrs	poor	about 35 yrs	poor
#5	gasoline	4,000 gal	~35 yrs	poor	about 35 yrs	poor

#6 on next sheet
Which tanks, if any, will be closed in-place: USTs# 0 Authorized by: ______ Date: / /
Disposal/destruction of removed UST(s): Location ~~[illegible]~~ Rhodes in Milton VT. Method Scrap Date: 8/31/98
Amount (gal.) and type of waste generated from USTs: 465 gasoline and waste oil liquid 50 of tank bottoms
(tank contents are hazardous wastes unless recovered as usable product)
Tank cleaning company (must be trained in confined space entry) MacIntyre
Certified hazardous waste hauler: MacIntyre. Generator ID number: unknown to Griffin

Section C. *Initial site characterization:*
Work in this section must be completed by a professional environmental consultant or hydrogeologist with experience in environmental sampling for the presence of hazardous materials. A full report from the consultant must accompany this form.

Excavation information: *(some tank pulls require more than one excavation)*

Tank(s) # and Excavation (A,B,C,etc)	Depth (ft)	Excavation size(ft²)	Peak PID reading	Depth of Peak (ft)	Avg PID reading	Bedrock Depth (ft)	Groundwater encountered? (y/n) and at depth (ft)	Soil type
A USTs1	12'	880 ft²	200	12 ft	38	not known	y ~ 9 ft	Sand
A - 2	10'	880 ft²	170	10 ft	46	not encountered	y ~ 9 ft	Sand
A - 3	12'	880 ft²	10	12	6.3	not encountered	y ~ 9 ft	Sand

continued next sheet

Dig Safe Number: Not known to Griffin
PID information:
Make: HNu Model: 3 Hw101 Calibration information (date, time, gas): 8/31/98 ISO

Locate all readings and samples on site diagram
Number of soil samples collected for laboratory analysis? 2 results due date 9/30/98
Have any soils been polyencapsulated on site? Yes__ (#yds³ __ PID range above zero low __ - __ peak) No ✓
Have any soils been transported off site? Yes__ list amount (yds³): ____ No ✓
Location transported to: ______ DEC official who approved ______
Amount of soils backfilled(yds³): 103 yd³ total PID range above zero low 0 - 200 peak
Have limits of contamination been defined? Yes__ No ✓
Is there any other known contamination on-site? Yes__ No ✓ Comments:

Form 2 of 2

UNDERGROUND STORAGE TANK PERMANENT CLOSURE FORM

Vermont Agency of Natural Resources, Department of Environmental Conservation, Waste Management Division
103 South Main Street, West Building, Waterbury, Vermont 05671-0404, Telephone: (802) 241-3888

Agency Use Only
Date of scheduled Activity 9/26/98 Facility ID # — Closing: ✓ tanks, ___ piping, ___ system
DEC initials: ST SMS # DEC evaluator:

Section A. Facility Information:
Name of facility: C. Wilkins Auto Number of employees: 2
Street address: 105 State St Rutland VT Town/city Rutland
Owner of UST(s) to be closed: John Cragin Contact(if different than owner): John Cragin Jr
Mailing address of owner: 105 State St
Telephone number of owner: 775 4743 Contact telephone #: 775-9781

Section B. UST Closure Information: (please check one)
Reason for initiating UST closure: __Suspected Leak ___Liability __Replacement X Abandoned

USTs (piping is considered a part of UST system) undergoing permanent closure. Include condition of USTs

UST #	Product	Size (gallons)	Tank age	Tank Condition	Piping age	Piping condition
6	waste oil	500	35± yrs		35± yrs	

Which tanks, if any, will be closed in-place: USTs# ___ Authorized by: ___ Date: / /
Disposal/destruction of removed UST(s): Location Rhodes Milton Method Scrap Date: 9/2/98
Amount (gal.) and type of waste generated from USTs: 345 g waste oil
(tank contents are hazardous wastes unless recovered as usable product)
Tank cleaning company (must be trained in confined space entry) MacIntyre
Certified hazardous waste hauler: Total Waste Mgmt Generator ID number: 980521845

Section C. Initial site characterization:
Work in this section must be completed by a professional environmental consultant or hydrogeologist with experience in environmental sampling for the presence of hazardous materials. A full report from the consultant must accompany this form.
Excavation information: *(some tank pulls require more than one excavation)*

Tank(s) # and Excavation (A,B,C,etc)	Depth (ft)	Excavation size(ft²)	Peak PID reading	Depth of Peak (ft)	Avg PID reading	Bedrock Depth (ft)	Groundwater encountered? (y/n) and at depth (ft)	Soil type
A-#4	12ft	880ft²	110	12		not encountered	y 10'	Sand
A-#5	11ft	880ft²	110	11'		not encountered	y 10'	Sand
B#6	5'	40	1.2	3	0	UNK	N	Sand/silt

Dig Safe Number: UNK
PID information:
Make: HNu Model: HW101 Calibration information (date, time, gas): 9/21/98 @ 1500

Locate all readings and samples on site diagram
Number of soil samples collected for laboratory analysis? ___ results due date / /
Have any soils been polyencapsulated on site? Yes___ (#yds³ ___ PID range above zero low ___ - ___ peak) No ✓
Have any soils been transported off site? Yes___ list amount (yds³): ___ No ✓
Location transported to: ___ DEC official who approved ___
Amount of soils backfilled(yds³): ___ PID range above zero low ___ - ___ peak
Have limits of contamination been defined? Yes___ No___
Is there any other known contamination on- site? Yes___ No___ Comments: ___

Free Phase product encountered? Yes___ :thickness___ sheen___ No___
Groundwater encountered? ___ Yes ___ depth(ft) ___ No

Facility ID# Form II

Section D: Tanks/Piping Remaining/installed

Regardless of size, include USTs at site as to *status, e.g. "abandoned", "in use", or "to be installed". (Most installations require permits and advance notice to this office.)

UST#	Product	Size(gallons)	Tank age	*Tank status	Piping age	*Piping Status

✓ There are no other tanks at this site.

Section E. Statements of UST closure compliance:
(must have both signatures or site assessment not complete)

As the party responsible for compliance with the Vermont UST Regulations and related statutes at this facility, I hereby certify that the all of the information provided on this form is true and correct to the best of my knowledge.

[signature] 9,1,98

Signature of UST owner or owner's authorized representative — Date of signature

As the environmental consultant on site, I hereby certify that the site assessment requirements were performed in accordance with DEC policy and regulations, and that information which I have provided on this form is true and correct to the best of my knowledge.

Veronica Albence 9,1,98

Signature of Environmental Consultant — Date of signature

Company: Griffin International

Telephone #: 865 4288 Date of Closure: 9/1/98 Date of Assessment 9/1/98

Return form along with complete narrative report and photographs to the Department of Environmental Conservation(DEC), Underground Storage Tank Program within 72 hours of closure.

Site diagram